4-10-1980

Test 1339: International 886 Diesel 16-Speed (S/N 2490208U17026 and Higher)

Tractor Museum
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NEBRASKA TRACTOR TEST 1339 — INTERNATIONAL 886 DIESEL 16 SPEED

(SERIAL NUMBERS 2490208U17026* and HIGHER)

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temperature °F (°C) Cooling medium	Air wet bulb	Air dry bulb	Barometer inch Hg (kPa)
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1158 rpm)								
90.56 (67.53)	2400	6.073 (22.987)	0.474 (0.288)	14.91 (2.938)	193 (89.3)	55 (12.8)	75 (23.8)	28.960 (97.794)
Standard Power Take-off Speed (1000 rpm)—One Hour								
88.23 (65.79)	2072	5.569 (21.082)	0.446 (0.271)	15.84 (3.121)	198 (92.2)	55 (12.7)	75 (23.9)	28.960 (97.794)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
82.04 (61.18)	2558	5.709 (21.613)	0.491 (0.299)	14.37 (2.831)	188 (86.9)	55 (12.8)	75 (23.9)	....
0.00 (0.00)	2655	2.026 (7.671)	....	....	177 (80.6)	55 (12.8)	75 (23.9)	....
41.97 (31.29)	2608	3.658 (13.846)	0.615 (0.374)	11.47 (2.260)	183 (83.9)	56 (13.1)	75 (23.9)	....
90.79 (67.70)	2402	6.092 (23.060)	0.474 (0.288)	14.90 (2.936)	193 (89.4)	56 (13.3)	75 (23.9)	....
21.17 (15.78)	2630	2.795 (10.581)	0.933 (0.567)	7.57 (1.492)	178 (81.1)	56 (13.3)	75 (23.9)	....
62.13 (46.33)	2586	4.592 (17.383)	0.522 (0.318)	13.53 (2.665)	186 (85.6)	56 (13.3)	75 (23.9)	....
Av **49.68**	**2573**	**4.145**	**0.589**	**11.98**	**184**	**56**	**75**	**28.950**
Av ***(37.05)***		***(15.692)***	***(0.358)***	***(2.361)***	***(84.6)***	***(13.1)***	***(23.9)***	***(97.760)***

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 8th (1Hi TA) Gear											
77.78 (58.00)	6221 (27.67)	4.69 (7.55)	2398	5.26	6.071 (22.982)	0.551 (0.335)	12.81 (2.524)	187 (85.8)	42 (5.3)	53 (11.7)	28.660 (96.781)
75% of Pull at Maximum Power—Ten Hours 8th (1Hi TA) Gear											
64.99 (48.46)	4814 (21.42)	5.06 (8.15)	2551	3.80	5.250 (19.873)	0.570 (0.347)	12.38 (2.439)	183 (84.1)	44 (6.9)	59 (14.8)	28.845 (97.405)
50% of Pull at Maximum Power—Two Hours 8th (1Hi TA) Gear											
44.21 (32.97)	3207 (14.27)	5.17 (8.32)	2573	2.64	4.071 (15.411)	0.650 (0.396)	10.86 (2.139)	179 (81.4)	42 (5.6)	55 (12.8)	28.640 (96.713)
50% of Pull at Reduced Engine Speed—Two Hours 12th (2Hi DD) Gear											
44.26 (33.01)	3209 (14.28)	5.17 (8.32)	1509	2.56	3.257 (12.329)	0.520 (0.316)	13.59 (2.677)	182 (83.3)	45 (7.2)	57 (13.6)	28.965 (97.810)
MAXIMUM POWER IN SELECTED GEARS											
63.76 (47.54)	10930 (48.62)	2.19 (3.52)	2552	14.77	4th (2 Lo DD) Gear			180 (81.9)	43 (6.1)	54 (12.2)	28.980 (97.861)
76.86 (57.32)	9740 (43.32)	2.96 (4.76)	2400	9.55	5th (3 Lo TA) Gear			182 (83.3)	39 (3.9)	47 (8.3)	28.720 (96.983)
77.67 (57.92)	7415 (32.98)	3.93 (6.32)	2400	6.27	6th (3 Lo DD) Gear			185 (85.0)	38 (3.3)	46 (7.8)	28.730 (97.017)
78.02 (58.18)	7135 (31.74)	4.10 (6.60)	2401	6.13	7th (4 Lo TA) Gear			186 (85.3)	38 (3.3)	45 (7.2)	28.740 (97.051)
80.13 (59.75)	6409 (28.51)	4.69 (7.55)	2398	5.22	8th (1 Hi TA) Gear			185 (85.0)	34 (1.1)	40 (4.4)	28.760 (97.118)
78.09 (58.23)	5482 (24.38)	5.34 (8.60)	2398	4.51	9th (4 Lo DD) Gear			186 (85.6)	39 (3.9)	48 (8.9)	28.710 (96.949)
78.48 (58.52)	4822 (21.45)	6.10 (9.82)	2401	3.93	10th (1 Hi DD) Gear			186 (85.6)	40 (4.4)	49 (9.4)	28.700 (96.916)
79.30 (59.13)	4692 (20.87)	6.34 (10.20)	2399	3.64	11th (2 Hi TA) Gear			187 (85.8)	40 (4.4)	50 (10.0)	28.700 (96.916)
77.24 (57.60)	3533 (15.72)	8.20 (13.19)	2398	2.82	12th (2 Hi DD) Gear			185 (85.0)	41 (5.0)	51 (10.6)	28.690 (96.882)

Department of Agricultural Engineering

Dates of Test: April 10 to 18, 1980

Manufacturer: INTERNATIONAL HARVESTER COMPANY, 401 North Michigan Avenue, Chicago, IL 60611.

FUEL, OIL AND TIME: Fuel No. 2 Diesel **Cetane No.** 47.9 (rating taken from oil company's inspection data) **Specific gravity converted to 60°/60° *(15°/15°)*** 0.8482 **Fuel weight** 7.062 lbs/gal *(0.846 kg/l)* **Oil SAE** 30 **API service classification** CA/CD-SC/SE **To motor** 2.606 gal *(9.864 l)* **Drained from motor** 2.450 gal *(9.273 l)* **Transmission and final drive lubricant** I.H. Hy-tran fluid **Total time engine was operated** 33.5 hours

ENGINE Make International Diesel **Type** six cylinder vertical **Serial No.** 358DT2D050083* **Crankshaft** lengthwise **Rated rpm** 2400 **Bore and stroke** 3.875″ × 5.0625″ *(98.4 mm × 128.6 mm)* **Compression ratio** 14.8 to 1 **Displacement** 358 cu in *(5868 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements with automatic dust unloader **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for transmission and hydraulic oil **Fuel filter** two paper cartridges **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** one thermostat

CHASSIS: Type standard with duals **Serial No.** 2490206U15954* **Tread width** rear 66″ *(1676 mm)* to 113.5″ *(2883 mm)* front 60″ *(1520 mm)* to 84″ *(2130 mm)* **Wheel base** 104.8″ *(2662 mm)* **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 31.4″ *(798 mm)* Vertical distance above roadway 40.5″ *(1029 mm)* Horizontal distance from center of rear wheel tread 0″ *(0 mm)* to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (2) range operator controlled powershift **Advertised speeds mph *(km/h)*** first 1.4 *(2.2)* second 1.8 *(2.8)* third 1.8 *(3.0)* fourth 2.4 *(3.8)* fifth 3.2 *(5.1)* sixth 4.1 *(6.6)* seventh 4.2 *(6.8)* eighth 4.8 *(7.8)* ninth 5.4 *(8.8)* tenth 6.2 *(10.0)* eleventh 6.4 *(10.3)* twelfth 8.2 *(13.2)* thirteenth 11.1 *(17.9)* fourteenth 14.3 *(23.0)* fifteenth 14.9 *(23.9)* sixteenth 19.1 *(30.7)* reverse 2.4 *(3.8)*, 3.0 *(4.9)*, 3.2 *(5.1)*, 4.0 *(6.5)*, 5.5 *(8.8)*, 7.0 *(11.3)*, 7.3 *(11.7)*, 9.4 *(15.1)* **Clutch** single dry disc hydraulically actuated and operated by foot pedal **Brakes** multiple wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Turning radius** (on concrete surface with brake applied) right 138″ *(3.51 m)* left 138″ *(3.51 m)* (on concrete surface without brake) right 175″ *(4.44 m)* left 175″ *(4.44 m)* **Turning space diameter** (on concrete surface with brake applied) right 286″ *(7.26 m)* left 286″ *(7.26 m)* (on

LUGGING ABILITY IN 8th (1 Hi TA) GEAR

Crankshaft Speed rpm	2398	2157	1921	1677	1435	1204
Pull—lbs *(kN)*	6409 *(28.51)*	7123 *(31.68)*	7744 *(34.45)*	8177 *(36.38)*	8293 *(36.89)*	8134 *(36.18)*
Increase in Pull %	0	11	21	28	29	27
Power—Hp *(kW)*	80.13 *(59.75)*	79.44 *(59.24)*	76.42 *(56.98)*	69.96 *(52.17)*	60.65 *(45.23)*	49.95 *(37.25)*
Speed—Mph *(km/h)*	4.69 *(7.55)*	4.18 *(6.73)*	3.70 *(5.96)*	3.21 *(5.16)*	2.74 *(4.41)*	2.30 *(3.71)*
Slip %	5.22	6.06	6.62	7.16	7.30	7.16

TRACTOR SOUND LEVEL WITH CAB	**dB(A)**
Maximum Available Power—Two Hours	80.0
75% of Pull at Maximum Power—Ten Hours	79.5
50% of Pull at Maximum Power—Two Hours	78.5
50% of Pull at Reduced Engine Speed—Two Hours	79.0
Bystander in 16th (4 Hi DD) gear	89.0

TIRES, BALLAST AND WEIGHT		**With Ballast**	**Without Ballast**
Rear Tires	—No., size, ply & psi *(kPa)*	Four 18.4-34; 6; 12 *(85)*	Four 18.4-34; 6; 12 *(85)*
Ballast	—Liquid (each inner)	815 lb *(370 kg)*	None
	—Cast Iron (each)	None	None
Front Tires	—No., size, ply & psi *(kPa)*	Two 9.5L-15; 6; 36 *(250)*	Two 9.5L-15; 6; 36 *(250)*
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	40 lb *(18 kg)*	None
Height of Drawbar		19 in *(485 mm)*	19 in *(485 mm)*
Static Weight with Operator—Rear		10130 lb *(4595 kg)*	8500 lb *(3855 kg)*
	Front	3320 lb *(1506 kg)*	3240 lb *(1470 kg)*
	Total	13450 lb *(6101 kg)*	11740 lb *(5325 kg)*

concrete surface without brake) right 360″ *(9.14 m)* left 360″ *(9.14 m)* **Power take-off** 1000 rpm at 2072 engine rpm and 540 rpm at 2106 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure. Temperature at injection pump return was 131°F *(55.2°C)*. Nine gears were chosen between 15% slip and 10 mph *(16.1 km/h)* The performance figures on this report apply after tractor chassis Serial No. 2490208U17026*.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1339.**

LOUIS I. LEVITICUS
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International 886 Diesel 16 Speed

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